Preliminary Amendment

Appln. No.: National Stage of PCT/FI2005/000064

Attorney Docket No. Q79659

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

- 1. (previously presented) A process for preparing a purified, essentially virus-safe immunoglobulin preparation, said process comprising the steps of
 - a) subjecting a starting solution comprising immunoglobulin and polymeric proteins to at least one virus-inactivation step, in which the composition is contacted with caprylic acid to form a precipitate and a supernatant solution comprising dissolved immunoglobulin and polymeric proteins,
 - b) recovering the supernatant solution,
 - c) contacting the supernatant solution with at least one ion exchange resin to produce a first effluent comprising immunoglobulin,
 - d) recovering the first effluent,
 - e) subjecting the first effluent to nanofiltration on a filter having an average pore size of about 10 to 40 nm to remove any enveloped and non-enveloped viruses and to produce a second effluent,
 - f) recovering the second effluent, and
 - g) formulating it to a pharmaceutically acceptable, virus-safe immunoglobulin preparation, which is free from polymeric proteins,

wherein polymeric proteins are removed from the supernatant solution obtained from step b by adding polyethylene glycol to the supernatant solution.

2. (previously presented) The process according to claim 1, wherein step a is carried out by adding caprylic acid to a final concentration of 15-60 mmol/l, preferably to 20-50 mmol/l.caprylic acid.

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- 3. (previously presented) The process according to claim 2, wherein step a is carried out at a pH of about 4.0 to 5.0.
- 4. (currently amended) The process according to <u>claim 1</u> any of claims 1 to 3, wherein the starting solution is provided by dissolving an immunoglobulin-containing blood fraction in an aqueous solution at a pH of about 4.0 to 5.0, preferably at 4.5 to 5.0.
- 5. (currently amended) The process according to <u>claim 1</u> any of claims 1 to 4, wherein the pH of the supernatant solution of step b is adjusted to a value of about 5.3 or higher.
- 6. (currently amended) The process according to <u>claim 1</u>-any of claims 1 to 5, wherein the concentration of the polyethylene glycol is 2 to 4% by weight of solution.
- 7. (currently amended) The process according to <u>claim 1 -elaim 11 or 12</u>, wherein the supernatant solution contains caprylic acid in a concentration of about 1 to 20 mmol/l.
- 8. (currently amended) The process according to <u>claim 1</u>-any of claims 1 to 7, wherein step e is carried out at a pH of 4.2 to 5.0.
- 9. (currently amended) The process according to <u>claim 1</u> any of claims 1 to 8, wherein the starting plasma contains less than 10⁴ IU/ml of parvovirus B19 DNA.
- 10. (currently amended) The process according to <u>claim 1</u>-any of claims 1 to 9, wherein the starting plasma is obtained from Cohn fraction II+III paste of human plasma.
- 11. (previously presented) A method of efficaciously filtering immunoglobulin solutions on a nanofilter having a pore size of 10 to 40 nm, which comprises conducting through the filter an immunoglobulin solution, comprising 1 to 25 g/l immunoglobulin, wherein the filtration is carried out at a pH of about 4.2 to 5.0 and wherein the immunoglobulin solution further contains no detectable polymer aggregates, to remove at least 3 log of viruses with particle

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size of about 20 nm, said immunoglobulin solution being obtained from a crude immunoglobulin solution by

- subjecting the crude immunoglobulin solution to caprylic acid treatment,
- removing protein aggregates and viruses from the immunoglobulin solution by adding polyethylene glycol, and
- subjecting the immunoglobulin solution to anion exchange chromatography
 in order to purify the crude immunoglobulin solution and to produce a solution, which is free from detectable amounts of protein aggregates.
- 12. (previously presented) The method according to claim 11, wherein the immunoglobulin solution contains 2 to 4 wt-% polyethylene glycol.
- 13 (previously presented) The method according to claim 11, wherein the solution is filtered at a temperature of about 20 to 50 °C and at a pressure difference of about 0.2 to 8 bar.
- 14. (previously presented) The method according to claim 13, wherein the solution is filtered using a trans-membrane pressure of 0.5 to 5.5 bar.
- 15. (currently amended) The method according to <u>claim 11</u>-any of claims 11 to 14, wherein at least 5 kg, preferably at least 7.5 kg, of immunoglobulin is passed through 1 m² of filter area with less than 50 % decrease in filter flux.
- 16. (currently amended) The method according to <u>claim 11</u> any of claims 11 to 15, wherein the immunoglobulin solution is filtered on a composite virus-removal filter.
- 17. (currently amended) The method according to <u>claim 11</u> any of claims 11 to 16, wherein filtration is carried out at a pH of about 4.2 to 4.8.